Turkish Journal of Health Science and Life

Examining the food label reading habits and attitudes towards healthy nutrition among healthcare professionals: a cross-sectional study

Mehmetcan KEMALOGLU[a*], Emine KEMALOGLU[b]

[a] *Agri Ibrahim Cecen University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Agri, Türkiye*

[b] *Agri Ibrahim Cecen University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Agri, Türkiye*

ARTICLE INFO

RESEARCH ARTICLE

Article history:

Received: 29 February 2024

Accepted: 02 November 2024

Available : 31 December 2024

[a]https://orcid.org/0000-0002-0334-3987

[b]https://orcid.org/0000-0003-3011-0860

*Correspondence: Mehmetcan KEMALOGLU

Agri Ibrahim Cecen University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Agri, Türkiye

e-mail: mkemaloglu@agri.edu.tr

Turkish Journal of Health Science and Life

2024, Vol.7, No.2, 113-120.

DOI: https://doi.org/10.56150/tjhsl.1445060

ABSTRACT

Aim: This study was conducted to evaluate the food label reading habits of healthcare professionals and their attitudes towards healthy nutrition.

Material and methods: 198 healthcare professionals were included in the study. Data regarding individuals' demographic characteristics, attitudes towards healthy eating (ASHN) and food label reading habits collected through an online form.

Results: When the data obtained is examined, the average age of the group is 27.5; It was determined that the average Body Mass Index (BMI) was 23.6 kg/m^2. The general average ASHN total score of the individuals was found to be 73.15±10.18, indicating a high general attitude towards healthy nutrition in the group. When the nutrition food label reading status and ASHN scores were compared, it was determined that the attitude scores towards healthy nutrition of individuals who responded often and always to the habit of reading food labels were higher than those who responded never, rarely or sometimes. It was also found that individuals who had previously received nutrition education had higher ASHN scores compared to those who had not received nutrition education.

Conclusion: As a result of the study, it was determined that there was a weak positive relationship between food label reading habits of healthcare professionals and ASHN scores.

Keywords: Nutrition behavior, food labeling, healthcare professionals

1. INTRODUCTION

An adequate and balanced diet contributes significantly to maintaining health by preventing obesity and non-communicable diseases (1). In this context, having food and nutrition information is very important to make healthy food choices, improve diet quality and protect against obesity-related risk factors (2). However, the rapid development of the industry and the increase in individuals' living standards have greatly changed their eating habits, and with the widespread use of packaged food products, it has become very difficult for individuals to make healthy choices in their diets. In such a situation, food labels are of great importance in informing the consumer and helping them make healthy choices (3).

Food labels; they are important guiding tools that include basic information such as food composition, quantity, allergen list, as well as nutritional declarations (4). It is a means of communication between the producer and the consumer and can directly affect the nutritional behavior and health of the consumer with the information it provides about the product (5). Individuals' food label reading habits

and nutritional knowledge levels directly affect the effective and correct use of this communication tool. For individuals, factors such as socio-economic status and age; In terms of food labels, font size and terminology used affect consumers' food label reading habits and nutritional knowledge level (6).

The World Health Organization (WHO) defines employees who see health promotion activities as their main purpose as 'health workers' (7). These individuals are expected to adopt health-promoting behaviors and thus be pioneers in maintaining national health by being role models for both individual health and society (8). Food label reading habits and healthy eating behaviors are also positive lifestyle habits that can be expected from healthcare professionals. For this reason, this study was conducted to evaluate the food label reading habits of healthcare professionals and their attitudes towards healthy nutrition.

2. MATERIALS AND METHODS

2.1. Study design and Participants

The study was conducted under the original Declaration of Helsinki and ethical approval to conduct this study was granted by the university's ethics committee on December 28, 2022 (decision number 328). This study was conducted on healthcare workers between February and March 2023. In this cross-sectional study, healthcare professionals working at a district state hospital who met the criteria and volunteered were included in the study. Before starting the study, general information was given to healthcare professionals about the content and purpose of the study, and a written consent form was obtained from each healthcare worker who agreed to participate in the study.

The inclusion criteria for the study are as follows:

• Being a healthcare worker
• Being between the ages of 18-65
• Not having any chronic or psychological illness
• Not using any medication
• Not being on a diet
• Shopping for food for oneself or one's family

This study is a cross-sectional study. The study was conducted with the healthcare workers of Agri Patnos State Hospital between February 20 and March 17, 2023. The universe of the study consists of all healthcare professionals of this state hospital (310 healthcare professionals). The online survey form, prepared through Google Forms, was transmitted to all healthcare professionals via WhatsApp/Telegram groups. Within the scope of the study 216 healthcare professionals agreed to participate. Due to missing data, 18 healthcare professionals were excluded from the study. Considering both the cross-sectional nature of the study and the possible problems that may occur during the study, everyone who met the criteria and volunteered was included in the study. Data regarding the demographic characteristics of individuals were collected through a form prepared by the researcher. This form questions individuals' basic demographic characteristics such as age, gender, marital status, profession, education, as well as whether they have received any nutrition training so far. In addition, individuals were asked to indicate their weight and height information through the form, and their BMI values were calculated based on this data.

2.2. Survey form

Individuals' attitudes towards healthy nutrition were evaluated with the Attitude Scale for Healthy Nutrition (ASHN) developed by Demir and Cicioğlu. ASHN; it is a scale with a 5-point likert structure (Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree) consisting of 21 items and 4 sub-dimensions (Nutritional Knowledge, Emotions Towards Nutrition, Positive Nutrition, and Poor Nutrition). In the scale, positive attitude items are scored in the order of 1, 2, 3, 4, and 5; while negative attitude items are scored in the order of 5, 4, 3, 2, and 1. The score that can be obtained from the scale varies between 21-105, and an increase in the total score is positively associated with an increase in the participants' attitudes towards healthy nutrition. Participants' scores of 21 are interpreted as very low, 22-42 points as low, 43-63 points as medium, 64-84 points as high, and 85-105 points as having an ideal

attitude towards healthy nutrition. The ASHN is a well -validated screening instrument, and it has demonstrated excellent internal consistency (Cronbach's α = 0.90) (9).

After reviewing the relevant literature, twenty one questions regarding food label reading habits were prepared by the researchers (10,11). These questions are related to whether individuals read food labels and what they pay attention to in food labels. Individuals' attitudes towards reading food labels were evaluated by asking them to answer the questions as 5-point likert structure (always, often, sometimes, rarely and never). No score or total score was obtained. All questions prepared were analyzed separately.

2.3. Statistical analysis

The data obtained as a result of the study were evaluated using the Statistical Package for Social Sciences for Windows 25.0 (SPSS 25.0) package program. Descriptive statistics are shown as number and percentage (%) for categorical variables, mean ($\bar{x}$) and standard deviation (SD) for continuous variables. Compliance with normal distribution was examined with histogram, Q-Q graphs and kurtosis skewness coefficients. Kurtosis and skewness coefficients of each data were determined to be between -1.5 and +1.5, and it was determined that the data showed normal distribution (12). Student's t test was applied to compare the means between two independent groups. Categorical variables were compared with the Chi-square test. "One-Way ANOVA Test" was used to compare more than two independent groups. Appropriate post-hoc test (LSD) was then used. In all statistical analyses, the confidence interval was accepted as 95% and the significance level was $p<0.05$.

3. RESULTS

A total of 198 healthcare workers who met the criteria and volunteered were included in this study. Data regarding the demographic characteristics and ASHN

Table 1: Data on demographic characteristics and ASHN total score of participants (n=198)

	Mean ± SD
Age	27.58 ±5.82
BMI	23.68 ± 3.37
ASHN total score	73.15±10.18
	n (%)
Gender	
Female	121 (61.1)
Male	77 (38.9)
Marital Status	
Married	78 (39.4)
Single	120 (60.6)
Occupation	
Doctor	25 (12.6)
Nurse	91 (46.0)
Medical Officer	16 (8.1)
Health Technician	25 (12.6)
Dietitian	5 (2.5)
Other	36 (18.2)
Educational Status	
High school	18 (9.1)
Associate Degree	43 (21.7)
Bachelor's Degree	123 (62.1)
Postgraduate	13 (6.6)
Other	1 (0.5)
Have you received nutrition education before?	
Yes	135 (68.2)
No	63 (31.8)
ASHN score groups	
Very low or low Medium High İdeal	0 (0.0) 42 (21.1) 130 (65.7) 26 (13.2)

Table 2: Evaluation of participants' habits towards reading food labels n (%)

	Never	Rarely	Some-times	Often	Always
I read the food labels of the products I buy	14 (7.1)	62 (31.3)	75 (37.9)	35 (17.7)	12 (6.1)
I can understand the contents of the food labels	6 (3.0)	40 (20.2)	68 (34.3)	58 (29.3)	58 (13.1)
The energy value of the products I buy is important to me	22 (11.1)	45 (22.7)	68 (34.3)	48 (24.2)	15 (7.6)
The protein content of the products I buy is important to me	18 (9.1)	43 (21.7)	77 (38.9)	44 (22.2)	16 (8.1)
The amount and type of fat in the products I buy is important to me	12 (6.1)	45 (22.7)	64 (32.3)	51 (25.8)	26 (13.1)
The carbohydrate content of the products I buy is important to me	18 (9.1)	47 (23.7)	64 (32.3)	51 (25.8)	18 (9.1)
The amount of pulp (fiber) in the products I buy is important for me	17 (8.6)	48 (24.2)	67 (33.8)	49 (24.7)	17 (8.6)
The sodium/salt content of the products I buy is important to me	23 (11.6)	48 (24.2)	62 (31.3)	46 (23.2)	19 (9.6)
The amount of added sugar in the products I buy is important to me	21 (10.6)	34 (17.2)	61 (30.8)	50 (25.3)	32 (16.2)
The vitamin-mineral content of the products I buy is important to me	17 (8.6)	25 (12.6)	71 (35.9)	63 (31.8)	22 (11.1)
The percentage of the products I buy that meet my daily nutritional needs is important for me	15 (7.6)	50 (25.3)	58 (29.3)	57 (28.8)	18 (9.1)
I care about low-fat. light. omega-3 source. etc. in the products I buy	21 (10.6)	48 (24.2)	72 (36.4)	33 (16.7)	24 (12.1)
I look for additives (preservatives. colorants) on the products I buy	12 (6.1)	43 (21.7)	65 (32.8)	49 (24.7)	29 (14.6)
The production and expiry dates of the products I buy are important to me	5 (2.5)	14 (7.1)	31 (15.7)	44 (22.2)	104 (52.5)
The country where the product I buy is produced is important to me	30 (15.2)	48 (24.2)	59 (29.8)	33 (16.7)	28 (14.1)
I especially look at the nutrition food labels of the products I buy for the first time	16 (8.1)	34 (17.2)	58 (29.3)	51 (25.8)	39 (19.7)
I don't read food labels because I don't have time	35 (17.7)	60 (30.3)	65 (32.8)	27 (13.6)	11 (5.6)
I don't read food labels because they are not visible on the packaging	42 (21.2)	62 (31.3)	61 (30.8)	25 (12.6)	8 (4.0)
I don't read food labels because they give too much information	42 (21.2)	59 (29.8)	63 (31.8)	29 (14.6)	5 (2.5)
I don't read food labels because I don't believe what is written	55 (27.8)	58 (29.3)	48 (24.2)	27 (13.6)	10 (5.1)
I don't read food labels because the font size is small	54 (27.3)	49 (24.7)	54 (27.3)	28 (14.1)	13 (6.6)

scores of the participants are included in (Table 1).

Participants' attitudes towards healthy eating were evaluated with the ASHN scale. It was determined that the general average of the individuals' ASHN total score was 73.15±10.18 and therefore the group's general attitude towards healthy nutrition was high. When evaluated according to ASHN score groups, it was found that there were no participants in the very low or low score groups; It was determined that 21.1% of the participants were in the medium score and 13.2% were in the ideal score group. Data regarding the responses of healthcare professionals regarding their nutrition label reading habits are included in (Table 2). 37.9% of healthcare professionals were found to sometimes read food labels, while 7.1% never read food labels. It was determined that 29.3% often understood food labels. Additionally, 52.5% were found to always prioritize production and expiration dates.

The data suggest that healthcare professionals generally do not perceive common barriers, such as font size, information overload, or lack of trust, as significant deterrents to reading food labels. Only 6.6% consistently avoid labels due to small font size, and just 2.5% cite excessive information as a deterrent, while most participants disagree with these concerns. Overall, these factors have limited impact on label reading habits among healthcare professionals (Table 2).

In addition, some demographic characteristics and data on individuals' ASHN scores and food label reading habits were compared, and the data of this comparison is given in (Table 3). The relationship between individuals' BMI values, ASHN total scores and food label reading habits was also examined, and no relationship could be detected between BMI and the parameters in question (p>0.05). The relationship between individuals' food label reading habits and ASHN total scores was also examined, and the data regarding this relationship is included in (Table 4). When the table was examined, it was determined that the attitude scores towards healthy nutrition of individuals who responded often and always to the habit of reading food food labels were higher than those who responded never, rarely or sometimes (p<0.05).

Table 3: Comparison of ASHN scores and food label reading habits of participants according to some demographic characteristics

ASHN Score		**p***	**Food Label Reading Habit n(%)**					**p****
(Mean ± SD)			Always	Often	Sometimes	Rarely	Never	
Gender								
Female	73.66±10.33	0.379	12 (5.8)	39 (19.8)	70 (35.5)	67 (33.9)	10 (5.0)	0.416
Male	72.35±9.96		13 (6.5)	28 (14.3)	82 (41.6)	54 (27.3)	21 (10.4)	
Marital Status								
Married	76.99±9.97	**<0.001**	20 (10.3)	38 (19.2)	71 (35.9)	64 (32.1)	5 (2.6)	0.101
Single	70.66±9.56		6 (3.3)	33 (16.7)	78 (39.2)	61 (30.8)	20 (10.0)	
Nutrition education								
Yes	74.49±9.65	**0.007**	15 (7.4)	39 (20.0)	75 (37.8)	59 (29.6)	10 (5.2)	0.279
No	70.29±10.75		6 (3.2)	25 (12.7)	76 (38.1)	69 (34.9)	22 (11.1)	

ASHN:Attitudes Towards Healthy Eating *Student test **Chi-square test

Table 4: Comparison of nutrition food label reading status and ASHN scores

Food Label Reading Status	**ASHN Score (Mean ± SD)**		
Never	70.36± 9.65[a]	F=2.651 p * <0.035	d>a,b,c e>a,b,c p ** <0.05
Rarely	71.87±10.69[b]		
Sometimes	72.23± 9.40[c]		
Often	76.63± 9.82[d]		
Always	78.67± 11.11[e]		

ASHN:Attitudes Towards Healthy Eating *: ANOVA Test **: LSD Test

4. DISCUSSION

This study was conducted to evaluate the food label reading habits of healthcare professionals and their attitudes towards healthy nutrition. The high level of nutritional knowledge of societies and individuals is a very important factor in protecting against the risk of obesity and obesity-related non-communicable diseases by directly affecting nutritional habits (13). It is very important for healthcare professionals to have adequate nutritional knowledge in terms of improving and maintaining health, as they provide health-related recommendations and are seen as role models in society. However, it is also a matter of debate whether the nutrition education that healthcare professionals receive throughout their education life is sufficient (14). The attitudes of healthcare professionals towards healthy nutrition and their food labels reading habits are also important factors that directly affect adequate and balanced nutrition, and therefore health. When healthcare professionals' ASHN scores were examined, it was determined that attitudes towards healthy nutrition were generally high. Similarly, in a study conducted with 386 healthcare professionals at a university hospital in Türkiye, it was determined that the general attitude of healthcare professionals towards healthy nutrition was high. In this study, unlike our findings, it was determined that there was a difference between genders and that women's attitudes towards healthy nutrition were higher (15). In another study conducted on nurses, attitudes towards healthy nutrition of the participants was reported as high (16). In a study conducted with 275 medical faculty students, it was determined that 76% of the group had a high attitude score towards healthy nutrition (17). When the studies are examined, it is seen that health workers in Türkiye generally have high health-related nutrition attitude scores and these findings are similar to our study.

Food labels are mandatory and effective communication tools that promote healthy eating (18). In addition, food labels can only serve their purpose when they are read and interpreted correctly (19). It is especially important for individuals who take responsibility for kitchen shopping at home to be conscious about this issue, as it affects the health of the household (20). For this reason, the item 'shopping for food for their family or themselves' was added to the inclusion criteria of this study, and individuals who met this condition participated in the study. Among our results, all but 7.1% of the participants have the habit of reading food labels, albeit rarely, and all but 3% of them declared that they understood the food labels read by others. While the importance of food label reading habits is emphasized, it is also a matter of debate whether this habit causes a direct increase in diet quality (21). This habit can only lead to an increase in diet quality by understanding and interpreting the data correctly. A systematic review of one hundred and twenty articles; showed that food labels were generally well understood, and this rate was higher in educated and female individuals (18). Although our study concluded that individuals who received nutrition education had higher attitudes towards healthy nutrition; no significant relationship was found between food label reading habits and gender or having received nutrition education. In the same study, it was reported that the information that individuals pay most attention to on the food label is data on fats, energy content, protein, cholesterol, carbohydrates, vitamins and minerals, fat types, portion size, additives and sodium (21). It was determined that the information that the majority of the individuals included in this study pay attention to and 52.5% of whom say they always pay attention to is the 'production and expiration date'. It is thought that this situation may be related to the traditional habits of the countries and the nutritional knowledge level of the participants. The results of two studies conducted in Türkiye, one with healthcare professionals and the other with medical faculty students, showed that one of the issues that participants pay most attention to when reading food labels is the expiration date (17, 22). However, as we mentioned before, examining the attitudes towards healthy nutrition and food label

reading habits of this group, which provides health services and is seen as a role model for the society, and making interventions in this direction can be an important step for public health. In this context, expanding the literature by conducting more studies in this field is one of the most important suggestions that can be given by researchers. In addition, another important recommendation is that programs should be made to improve the nutritional knowledge of both healthcare professionals and the society and that dietitians/nutritionists should actively take part in these programs.

This study employs a cross-sectional design to investigate the relationships between various variables within a specific group during a defined period. However, several limitations should be acknowledged, which may impact the generalizability of the findings. The study's generalizability is limited by the nature of the sampling method used. The participants were not randomly selected from the broader population, potentially introducing sampling bias. Consequently, the findings may primarily reflect the characteristics of the specific group studied and may not be broadly applicable to the wider population. The study relies on participants' self-reported height and weight to calculate BMI. Self-reported anthropometric data may be subject to inaccuracies, leading to potential biases in BMI calculations. This introduces a source of measurement error that could affect the accuracy and reliability of the results. The questions related to participants' nutritional labeling habits were formulated based on a literature review. In summary, while this cross-sectional analysis offers valuable insights into the relationships under investigation, researchers and readers should be cautious in extending the findings beyond the specific context and population studied due to the aforementioned limitations. Future study employing longitudinal designs and more representative sampling methods may provide a more comprehensive understanding of the dynamics explored in this study.

5. CONCLUSION

In conclusion, the study revealed that 23.8% of healthcare professionals often or always read food labels. Notably, two-thirds of these healthcare workers had received nutrition training, which correlated with generally high attitude scores towards healthy eating. Furthermore, a positive relationship was identified between receiving nutrition education and ASHN scores, indicating that participants with higher ASHN scores are more likely to engage in the habit of reading food labels. These findings underscore the critical importance of integrating nutrition education into the training of healthcare professionals, highlighting its role in promoting healthy dietary practices.

Acknowledgements: The authors are thankful all participants.

Financial Support: This study received no grant from any funding agency/sector.

Conflicts of Interest: The authors declare that they have no conflicts of interest.

Statement of Responsibility: Manuscript is written by Mehmetcan Kemaloğlu and Emine Kemaloğlu. Manuscript is reviewed and edited by authors.

Ethical Statement: This study was approved by Agri Ibrahim Cecen University Scientific Study Ethics Committee December 28, 2022 (decision number 328).

REFERENCES

1. Al-Barqi, R., Al-Salem, Y., Mahrous, L., Abu Abat, E., Al-Quraishi, R., & Benajiba, N. (2020). Understanding barriers towards the use of food labels among Saudi female college students. Malaysian Journal of Nutrition, 26(1). doi: https://doi.org/10.31246/mjn-2019-0117
2. Taleb, S., & Itani, L. (2021). Nutrition literacy among adolescents and its association with eating habits and BMI in Tripoli, Lebanon. Diseases, 9(2), 25. https://doi.org/10.3390/diseases9020025
3. Zhang, J., Zhai, L., Osewe, M., & Liu, A. (2020). Analysis of factors influencing food nutritional labels use in Nanjing, China. Foods, 9(12), 1796. https://doi.org/10.3390/foods9121796
4. Pekcan, A.G., Şanlıer, N., Baş, M., Acar Tek, N., Gökmen Özel, H. (2022). Türkiye Nutrition Guide (TUBER). T.R. Ministry of Health.
5. Moreira, M. J., García-Díez, J., De Almeida, J. M. M. M., & Saraiva, C. (2019). Evaluation of food labelling usefulness for

consumers. International Journal of Consumer Studies, 43(4), 327-334. https://doi.org/10.1111/ijcs.12511

6. Xazela, N., Chinyamurindi, W. T., & Shava, H. (2019). The relationship between nutrition reading and label use and nutrition knowledge amongst a sample of rural youth studying at a university in South Africa. Health SA Gesondheid, 24. https://doi.org/10.4102/hsag.v24i0.1320
7. World Health Organizations (WHO), Basic Documents: 49th edition. (2020). 1–244.
8. Hamurcu, P., & Derya, T. (2022). Determining the Level of Eating Awareness in Health Care Workers: The Example of Zeynep Kamil Gynecological and Pediatric Diseases Training and Research Hospital. Western Black Sea Medical Journal, 6(1), 96 -105. https://doi.org/10.29058/mjwbs.1030982
9. Demir, G. T., Cicioğlu, H. İ. (2019). Attitude Scale towards Healthy Nutrition (ASHN): Validity and reliability study. Gaziantep University Journal of Sports Sciences. 4(2), 256-274. https://doi.org/10.31680/gaunjss.559462
10. Bryła, P. (2020). Who reads food labels? Selected predictors of consumer interest in front-of-package and back-of-package labels during and after the purchase. Nutrients, 12(9), 2605. https://doi.org/10.3390/nu12092605
11. Zafar, M. Z., Shi, X., Yang, H., Abbas, J., & Chen, J. (2022). The impact of interpretive packaged food labels on consumer purchase intention: the comparative analysis of efficacy and inefficiency of food labels. International Journal of Environmental Research and Public Health, 19(22), 15098. https://doi.org/10.3390/ijerph192215098
12. McNabb, D. E. (2017). Research methods in public administration and nonprofit management. Routledge.
13. Dumic, A., Miskulin, M., Pavlovic, N., Orkic, Z., Bilic-Kirin, V., & Miskulin, I. (2018). The nutrition knowledge of Croatian general practitioners. Journal of clinical medicine, 7(7), 178. https://doi.org/10.3390/jcm7070178
14. Sunguya, B. F., Poudel, K. C., Mlunde, L. B., Urassa, D. P., Yasuoka, J., & Jimba, M. (2013). Nutrition training improves health workers' nutrition knowledge and competence to manage child undernutrition: a systematic review. Frontiers in public health, 1, 37.https://doi.org/10.3389/fpubh.2013.00037
15. Bıçakcı, H,S. (2022). Evaluation of the health perception and nutritional habits of a university hospital medical staff during the COVID 19 pandemic period. Master's thesis, Necmettin Erbakan University Meram Faculty of Medicine.
16. Uzdil, Z., Seda, K. (2022). The effect of sleep patterns on the nutritional status of nurses working on duty. Samsun Health Sciences Journal, 7(3), 823-834.
17. Güleş, B. (2022). Evaluation of İnönü University Faculty of Medicine students' attitudes towards healthy nutrition, label reading habits and nutritional literacy. Master's thesis, İnönü University Institute of Health Sciences.
18. Campos, S., Doxey, J., & Hammond, D. (2011). Nutrition labels on pre-packaged foods: a systematic review. Public health nutrition, 14(8), 1496-1506. https://doi.org/10.1017/S1368980010003290
19. Cha, E., Kim, K. H., Lerner, H. M., Dawkins, C. R., Bello, M. K., Umpierrez, G., & Dunbar, S. B. (2014). Health literacy, self-efficacy, food label use, and diet in young adults. American journal of health behavior, 38(3), 331-339. https://doi.org/10.5993/AJHB.38.3.2
20. Correa, T., Fierro, C., Reyes, M., Dillman Carpentier, F. R., Taillie, L. S., & Corvalan, C. (2019). Responses to the Chilean law of food labeling and advertising: exploring knowledge, perceptions and behaviors of mothers of young children. International Journal of Behavioral Nutrition and Physical Activity, 16(1), 1-10. https://doi.org/10.1186/s12966-019-0781-x
21. Christoph, M. J., An, R., & Ellison, B. (2016). Correlates of nutrition label use among college students and young adults: a review. Public health nutrition, 19(12), 2135-2148. https://doi.org/10.1017/S1368980015003183
22. Mercan, H. (2019). The relationship between label reading habits of healthcare professionals and their nutritional status. Master's thesis, Trakya University Institute of Health Sciences.